B. REMARKS

Reconsideration of the application in view of the above amendments and the following remarks is respectfully requested. Claims 1, 2, 11, 12, and 21-24 have been amended. No claims have been canceled or added in this reply. Hence, Claims 1-24 are pending in this application. The amendments to the claims do not add any new matter to this application. Furthermore, the amendments to the claims were made to improve the readability and clarity of the claims and not for any reason related to patentability. All issues raised in the Office Action mailed December 4, 2006 are addressed hereinafter.

ALLOWABILITY OF CLAIMS

The indicated allowability of Claims 2-9 and 12-19 is gratefully acknowledged. These claims have not been rewritten in independent form at this time however, because it is believed that all of the pending claims are patentable over the references cited and relied upon for at least the reasons set forth hereinafter.

REJECTION OF CLAIMS 1, 10, 11 AND 20-22 UNDER 35 U.S.C. § 102(b)

Claims 1, 10, 11 and 20-22 are rejected under 35 U.S.C. § 102(b) as being anticipated by *Meyer*, U.S. Patent No. 5,898,891. It is respectfully submitted that Claims 1, 10, 11 and 20-22 are patentable over *Meyer* for at least the reasons provided hereinafter.

CLAIM 1

Claim 1, as amended, is directed to a machine-implemented method for replicating content of a source disk to at least one of a plurality of target disks that recites:

> "establishing at most one producer process for reading content of a source disk into a buffer;
> establishing at least one consumer process for reading content from the buffer and writing the content to a target disk; and
> coordinating concurrent synchronous copy operations by the producer process from the source disk to the buffer and by the at least one consumer process from the buffer to the target disk, wherein coordinating concurrent synchronous copy operations by the producer process from the source disk to the buffer and by the at least one consumer process from the buffer to the target disk comprises synchronization of multiple concurrent copy operations into and from a shared memory."

It is respectfully submitted that Claim 1 recites one or more limitations that are not taught or suggested by *Meyer*. For example, Claim 1 recites that the content is copied from a source disk to a target disk via a buffer. Claim 1 also recites that coordinated concurrent synchronous copy operations are used to accomplish the transfers of data from the source disk to the buffer and from the buffer to the target disk. Claim 1 further recites that coordinating concurrent synchronous operations comprises synchronization of multiple concurrent copy operations into and from a shared memory. It is respectfully submitted that these limitations are not taught or suggested by *Meyer*.

Meyer describes three techniques for copying data. The first technique described by *Meyer* is a traditional DMA technique used by PC systems, where sequential (non-concurrent) data copy operations are made between two hard disks through a DMA module in a PC (Col. 2, lines 39-45).

The second technique described by *Meyer* is related to a data archival device (U.S. Pat. No. 5,446,877), where data are read from a hard disk to a tape drive (Col. 3, lines 1-7). As disclosed, since the target drive is a tape drive, the data transfer is also sequential. In addition, the second technique requires certain routines, buffers and control electronics within the tape drive, and is unavailable for transferring data between hard drives.

The third technique described by *Meyer* is a direct data transfer technique, where a processor only needs to set up initial flag bits to commence a direct data transfer between a source hard disk and a target disk without additional processor involvement and to reset certain bits after the direct transfer is accomplished (Abstract; 160A and 160B of FIG. 3). Like the previous two, this last technique described by *Meyer* also uses sequential copy operations. For example, when the target hard disk is attached to a secondary IDE channel 126, a secondary MUX 172B and a primary data move bus160A are used to send the source disk data to a secondary First-In-First-Out 170B.

The Office Action asserts that the Claim 1 limitations "coordinating concurrent synchronous copy operations by the producer process from the source disk to the buffer and by the at least one consumer process from the buffer to the target disk" are taught in *Meyer* at Col. 3, lines 1-4. This portion of *Meyer* describes the previously mentioned second technique for using a software routine to allow data to be written to a tape drive coupled to an IDE interface, while data was read from a disk drive coupled to the interface. There is no indication that the

described approach is applicable to transferring data from a source disk to a target disk via a buffer, as recited in Claim 1. The approach is described only in the context of transferring data from a disk to a tape drive. Furthermore, as noted *supra*, Meyer at Col. 3, lines 10-11 states "[t]he disclosed system is unavailable for transferring data between hard drives." Thus, *Meyer* explicitly teaches away from using the technique in the context of disk-to-disk transfers. It is therefore respectfully submitted that at least the Claim 1 limitations "coordinating concurrent synchronous copy operations by the producer process from the source disk to the buffer and by the at least one consumer process from the buffer to the target disk" are not taught or suggested by *Meyer*.

The Office Action responds to Applicant's above argument by stating that *Meyer* teaches that the storage systems for the source and target may both be disk systems at Col. 4, lines 10-13 & 19-23. However, this newly cited portion of *Meyer* actually refers to the third technique (i.e., direct data transfer without any in-between processor involvement), not the second technique that the Office Action cites as disclosing the Claim 1 features of coordinating concurrent operations. In fact, as noted *supra*, *Meyer* explicitly states that the second technique is only suitable in the context of transferring data from a disk to a tape drive, and unavailable for transferring data between hard drives.

It is therefore respectfully submitted that Claim 1 recites one or more limitations that are not taught or suggested by *Meyer* and is therefore patentable over *Meyer*.

CLAIM 10

Claim 10 depends from Claim 1 and includes all of the limitations of Claim 1. It is therefore respectfully submitted that Claim 10 is patentable over *Meyer* for at least the reasons set forth herein with respect to Claim 1. Furthermore, it is respectfully submitted that Claim 10 recites additional limitations that independently render them patentable over *Meyer*.

CLAIMS 11 AND 20

Claim 11 recites limitations similar to Claim 1, except in the context of a computer-readable medium. It is therefore respectfully submitted that Claim 11 is patentable over *Meyer* for at least the reasons set forth herein with respect to Claim 1. Claim 20 depends from Claim 11

and includes all of the limitations recited in Claim 11. It is therefore respectfully submitted that Claim 20 is patentable over *Meyer* for at least the reasons set forth herein with respect to Claim 11.

CLAIMS 21 AND 22

Claims 21 and 22 recite limitations similar to Claim 1, except in the context of a apparatuses. It is therefore respectfully submitted that Claims 21 and 22 are patentable over *Meyer* for at least the reasons set forth herein with respect to Claim 1.

In view of the foregoing, it is respectfully submitted that Claims 1, 10, 11 and 20-22 are patentable over *Meyer*. Accordingly, reconsideration and withdrawal of the rejection of Claims 1, 10, 11 and 20-22 under 35 U.S.C. § 102(b) as being anticipated by *Meyer* is respectfully requested.

REJECTION OF CLAIMS 23 AND 24 UNDER 35 U.S.C. § 103(a)

Claims 23 and 24 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Meyer*. Claims 23 and 24 recite limitations similar to Claim 1, except in the context of apparatuses. It is therefore respectfully submitted that Claims 21 and 22 are patentable over *Meyer* for at least the reasons set forth herein with respect to Claim 1. Accordingly, reconsideration and withdrawal of the rejection of Claims 23 and 24 under 35 U.S.C. § 103(a) as being unpatentable over *Meyer* is respectfully requested.

CONCLUSION

It is respectfully submitted that all of the pending claims are in condition for allowance and the issuance of a notice of allowance is respectfully requested. If there are any additional charges, please charge them to Deposit Account No. 50-1302.

The Examiner is invited to contact the undersigned by telephone if the Examiner believes that such contact would be helpful in furthering the prosecution of this application.

Respectfully submitted,

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: **Mail Stop AF**, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450

on Jan. 30, 2007 by Martina Placid